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# LAND TITLE MAPPER

## PROGRESS REPORT

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### The New Year

Land Title Mapper (LTM) is being tested and prototyped at the Billings and Aberdeen Area Land Title Records Offices (LTRO). On October 16, 1997 Mark Zundel (LTM Manager) presented the LTM Prototype Plan to the Project Management Committee (PMC). We are committed to the PMC completion of LTM for these offices, including Minneapolis, no later than November of this year (1998).

### Roles and Responsibilities

In March 1998, the appropriate staff from Billings, Aberdeen, and the Service Center will meet to define a preliminary Service Level Agreement (SLA). The SLA will define the roles and responsibilities of LTM customers and the Service Center in working together to help make LTM successful. The SLA will be reviewed regularly to ensure that it satisfies the needs of customers and the Service Center and does not become obsolete. During this time, Mark will also work towards the definition of the next phase of LTM, including where LTM will be deployed next. This decision will come from the Bureau's Land Title Records management team.

### Thank You

Finally, we are extremely pleased with the progress that has been made to date with LTM and are excited about the prospect of the new developments that are occurring at the Service Center to expedite the data development and to make LTM a more useful system. Thanks to the LTRO staff at the Billings and Aberdeen offices for their openness and candid input to the LTM development. The Service Center and the LTRO's together are well on our way to making LTM a great success.

### LTM GIS Database Update

As you are reading this, LTM version 2.1 is being delivered to the field. The new version will include both an updated LTM database for the Crow Reservation (Billings LTRO) and a newly created LTM database for the Fort Berthold Reservation (Aberdeen LTRO). GDSC GIS technical staff were successful in linking, applying, and updating the LTM Crow Reservation database (vintage 1978) by using current LRIS land status record data. Indeed, a 95% complete programmatic update was achieved through software refinements. The remainder of the land status updates, including townsite lots, were resolved by way of editing from source documents provided by the Billings LTRO staff.

### What's Up Doc?

Future LTM database updates using the Land Records Information System (LRIS) files will include all current Aberdeen and Billings LTRO LTM databases. Current data entry projects include Wind River and Rocky Boys for the Billings LTRO, and Pine Ridge, Turtle Mountain, and Winnebago for the Aberdeen LTRO.

*Continued on page 2*

### INSIDE THIS REPORT

- 3 Amoeba
- 2 Bug "Squash" Control
- 2 Coming Attractions ... Before The Millennium
- 1 LTM GIS Database Update
- 4 Questions And Answers
- 2 Team LTM – On The Road Again
- 1 The New Year
- 3 Using LTM For Quality Control

## Team LTM – On The Road Again



In October, Bill Verwys of Team LTM (leaving Larry Bagwell, Dennis Marenger, Rodney Skinner and the Ford van behind) traveled by air to Billings and Aberdeen area offices for the first scheduled upgrade of LTM software. Along with the software upgrades, Bill took care of a few technical issues regarding the LTM system. Modifications to the operating system configuration and communications software now give the GDSC the ability to remotely upgrade both the LTM software and the data libraries. Repair of one of the printers was also necessary on the Aberdeen system.



## Bug “Squash” Control

Over the last three months, we have been enhancing LTM and squashing LTM bugs. Here are some of the highlights:

### Lost In Space

In order to locate a tract of land in relation to geographic features (e.g., highways, streams), the Turtle Mountain Ceded Lands in Montana and the Fort Totten and Northern Cheyenne reservation libraries include geographically referenced data as a prototype.

### Back to the Future

For those of you who don't like scrolling through an alphabetically arranged list in order to find the reservation you last worked on, the reservation name now defaults to your last LTM session reservation selection.

### Bald Eagles and Buffaloes

Bureau of Indian Affairs and Department of Interior official seals now appear on the three, large-format LTM maps.

*Continued on Page 3*

## Data About Data

Database staff are developing and implementing LTM database metadata standards and creating an LTM Database Organization Guidelines (data dictionary) document. The inclusion of metadata will mean the GDSC is in compliance with Executive Order 12906 requiring Federal agencies to follow National Spatial Data Infrastructure standards when documenting data they produce.



*Jackie Beechum – LTM Data Entry*

## Coming Attractions ... Before The Millennium



There are a number of enhancements that will be included in future releases of LTM. LTM releases are scheduled every quarter with the Progress Report. Below are a few specific expected enhancements:

### A Map Lovely As A Tree

The placement of map data, legends, logos, and titles will be reorganized to minimize the amount of white space that appears on hardcopy maps. This further preserves rare species of trees.

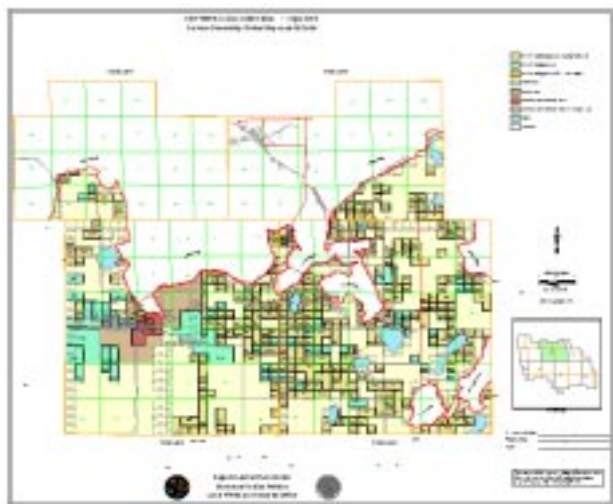
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## Save a Tree

We hate waste, including the 6 inches of white space that appeared along the bottom of a Segment map. This space now accommodates a larger map scale.

## Play it Again Sam

Don't like to make decisions? In order to avoid confusion while choosing a tract from a group of tracts with the same number within a section, separate graphic files are now automatically created for this situation. The user no longer has to interactively make a tract selection.



Fort Totten Segment Map

## Amoeba

The LTM development team is busy putting the finishing touches on the beta version of 'Amoeba', the automated parcel generator developed at the GDSC to build land status coverages for all Indian lands under trust. The Pine Ridge Reservation in South Dakota will be our first test area in January 1998. Amoeba is an innovative, simple solution to a persistent, difficult land management requirement – the link between legal land descriptions and geographic coordinates.

## Aliquot Parts – Some Assembly Required

The LTM parcel generator requires that a PLSS (Public Land Survey System) layer of township, section and non-standard government lots be available for preliminary processing. The process will predetermine PLSS section level intersections for 0.625-acre aliquot parts, 1024 parts per section, and maintain them for the actual parcel (BIA tract) creation. This methodology will eliminate "coordinate creep" and allow the actual determination of tract polygons to be extremely fast.

Continued on page 4

## Tell Me More

LTM will provide a consistent and more informative interface when a system or data error is encountered. A new window will appear that will provide a message describing the error and the module in which the error occurred.

## Tired of Waiting?

Information windows are displayed for processing steps that take more than a few moments. These windows will include more detailed descriptions of what processing is taking place. There will also be a visual indicator in the window showing that processing is indeed continuing; something is brewing in the background.

## Show Me The Lines

There are currently over a dozen styles of lines used to indicate different map features. A dynamic line legend will be developed and displayed below the polygon legend. The line legend will only include the line styles appearing on that map.

## Using LTM For Quality Control



One advantage of using LTM as a quality control tool is that it compiles all surface and mineral attributes into one graphic presentation. Incorrectly attributed arcs practically pop off the page.

Continued on page 4



Ron Harris Using LTM For QC

## Go Forth and Multiply

Amoeba will extract all current legal tract descriptions for a specific reservation from the LRIS database and proceed to generate the necessary ARC/INFO polygons with all associated LTM attributes. Additionally, Amoeba will create standard government lots along the northern and western edges of townships if not currently defined within the PLSS. Initial evaluations suggest 80%-85% of all LRIS records can be automated with this approach. We will continue to incrementally improve Amoeba during 1998 to increase efficiency and completeness. Further updates will be reported in the next LTM Progress Report.

The ability to see whole parcels of land assigned to one tract number is a big advantage. Piecing together a tract that crosses many lot or section lines can resemble a jigsaw puzzle. LTM displays the ownership tract number just once, making the tract boundaries very apparent.

## Room with a View

Digitizing and map compilation errors are more easily detected when surface and mineral ownerships are separately displayed. The ability to view four different sized maps (tract, township, segment, or reservation) also enhances quality control. The segment sized map works especially well for edgematching townships and irregular arcs such as rivers, lakes and streams. Lot numbers and acreages can be easily seen with the built-in magnifying glass – the zoom-in function.

## QUESTIONS AND ANSWERS

Q: How can I find out more about LTM?

A: Contact Mark Zundel at the GDSC (303) 231-5100 ext. 315.

Q: When will the next release of LTM be available?

A: Version 2.2 of LTM will be available Spring 1998.

Q: Where do I report problems with LTM?

A: Call the GDSC helpdesk at (303) 231-5120.

Q: How soon will LTM be available to me?

A: GDSC has committed to the completion of Aberdeen and Billings Area reservations, including Minneapolis, within 10 months. No schedule has been determined for the remaining Area Offices.

Q: What can we do if we want to zoom-in on the displayed map resulting from the 'preview' button?

A: Use the functions in the Pan/Zoom menu in the upper left corner of the display screen. The 'fullview' and 'extent' options are a good combination for rapid navigation during map display.

Q: Why does LTM lock up when I select a tract number near the bottom of a very long list?

A: ESRI has acknowledged that there is a bug in ARC/INFO when selecting from the bottom of a very long list. This will be fixed in a future release of ARC/INFO.

The temporary fix is to key-in the tract number instead of selecting from the list. This is only a concern when the selection is greater than the 600<sup>th</sup> element in the list.